REMARKS

Claims 1-4, 7, 9-10, and 13-17 were rejected as unpatentable over HANAFUSA et al. 6,844,105 in view of MAKI JP 2002-117819; and claims 5, 8, and 11-12 were rejected as unpatentable further in view of HIGASHIJIMA 5,886,502. Reconsideration and withdrawal of the rejections are respectfully requested because the rejections appear to include a factual error.

Claim 1 includes, among other features, a third terminal that is attached directly to one of the collectors and that does not directly contact either of the electrode terminals. The Official Action points to Figure 6 and the PTC 45 and wire 46 shown therein (discussed at column 9, lines 29-42) for the corresponding features in HANAFUSA et al.

However, the arrangement shown in HANAFUSA et al. is exactly opposite to what is claimed in claim 1. In HANAFUSA et al., wire 46 (third terminal) is not attached directly to one of the collectors (the collectors are inside the battery core 21 as noted at column 6, lines 21-29) and does directly contact cathode 23a as shown in Figure 6 and described at column 9, lines 32-33. This is generally the same arrangement as in MAKI (as explained in the previous response) and thus one of skill in the art would not find it obvious to provide the third terminal of claim 1.

The indication in the Official Action that HANAFUSA et al. disclose a third terminal that is attached directly to one of

the collectors and that does not directly contact either of the electrode terminals is a factual error.

By way of further explanation, core 21 of HANAFUSA et al. is inside laminated film 22 and includes positive and negative electrode collectors as in claim 1 (column 6, lines 21-29). The collectors in core 21 are contacted by cathode terminal 23a/35 and anode terminal 24a/39, as in claim 1 (column 6, lines 29-31). PTC 45 is connected to cathode terminal 23a through wire 46 (column 9, lines 32-33), which is not the same as claim 1. The wire 46 does not directly contact a collector and does directly contact a terminal. In MAKI, reeds 25, 27 and PTC 26 directly contact one of the electrode terminals 23. Thus, there is no suggestion in HANAFUSA et al. or MAKI to provide a third terminal that is attached directly to one of the collectors and that does not directly contact either of the electrode terminals.

Accordingly, the present claims avoid the rejections under §103.

Claims 5 and 11-12 have been amended to refer to a control circuit. Support is found at page 14, lines 10-15. By way of further explanation, a battery has terminals for charge and discharge in order to supply power. The terminals must have electrical resistance. When supplying power, current passes through the terminals. The current may be very large such as in the case of a battery for automobiles. Therefore, when a control circuit is connected to the terminals (in HIGASHIJIMA and in a

conventional technique), the control circuit cannot correctly obtain the battery voltage due to a voltage drop that occurs at the terminals, i.e., the obtained voltage deviates from the correct battery voltage by the amount of the voltage drop. This deviation is very large when the current is large.

In contrast to the above-mentioned conventional technique, in the invention of claims 5 and 11-12, a control circuit is connected to the third terminals, where the control circuit correctly obtains the battery voltage. This is because the third terminals are attached directly to the electrode collector and do not directly contact the electrode terminals so that the large current caused by the power supply does not pass through the third terminals and the corresponding large voltage drop does not occur at the third terminals. Therefore, the function of the control circuit can be improved based on the fact that the deviation between the correct battery voltage and the obtained voltage is reduced.

This may be seen in the attached drawings that correspond to Figure 7 and Figure 9 (Prior Art) in the specification, respectively. The voltage drop corresponds to the term "Is(Rc+Ra)" in the equation for "Vt" in "CONVENTIONAL".

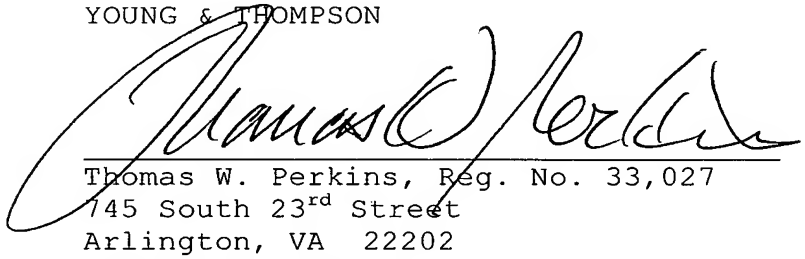
The Official Action does not address claim 6. If the application is not yet in condition for allowance, then a new Official Action that addresses claim 6 is respectfully requested.

In view of the foregoing remarks, it is believed that the present application is in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



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APPENDIX:

The Appendix includes the following item:

- sheet of drawings that correspond to Figure 7 and Figure 9 (Prior Art) in the specification